

Serial No. 10/517,437

Amendment Dated: November 22, 2006

Reply to Office Action Mailed: August 23, 2006

Attorney Docket No. 095309.55678US

Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1.-12. (Cancelled)

Claim 13. (Currently Amended) :

Claim 14. (Currently Amended) The arrangement as claimed in claim 13 An apparatus for supplying voltage to a plurality of loads in a vehicle having a vehicle power supply system which includes at least a first energy store that is connected in a starter circuit element to a starter for starting an engine, and a second energy store that is connected in a load circuit element to load components, said apparatus comprising:

a controller including a data processing unit, and a coupling element that is operable to connect the starter circuit element to the load circuit element;

additional coupling elements, each of which is operable to connect one safety related load to the starter circuit element; and

a measurement device for providing data from which the data

processing unit can determine a state of the respective energy stores in the starter and load circuit elements, and data concerning current flowing through and voltage across a safety related load, whereby the data processing unit can continuously monitor a state of each respective energy store for the starter and load circuit elements as well as the safety related loads, and the paths to the safety related loads, and the data processing unit can also control switching of at least one of the coupling element and the additional coupling elements, in response to said state; wherein:

the data processing unit uses voltage of the first energy store, which is applied to respective safety related loads by associated disconnected coupling elements, for current-free monitoring and determination of the availability of supply to the respective safety-relevant load independently of the state of the load circuit element; and

the controller drives at least one of a coupling element and a safety device corresponding to determined availability of the supply.

Claim 15. (Previously Presented) The arrangement as claimed in claim 14, wherein:

in a normal operating mode, when it is determined that the load circuit element is fully available, the controller controls switching of the coupling

element such that the safety-relevant load is supplied only by the load circuit element;

in a second operating mode, when it is determined that the load circuit element is not fully available, the controller controls switching of the coupling element such that the load circuit element is supported via the coupling element by the first energy store and the starter circuit element, in order to ensure an entire supply; and

in a third operating mode, when it is determined that the load circuit element has failed completely, the controller controls switching of the coupling element such that the coupling element is disconnected or a safety device in addition to the coupling element achieves disconnection from the starter circuit element and the load circuit element, and the safety-relevant load is supplied only via the starter circuit element from the first energy source.

Claim 16. (Previously Presented) The arrangement as claimed in Claim 15, wherein the data processing unit can perform at least one of the following:

- i) determine an amount of charge which is drawn by each safety-relevant load from the data,
- ii) control at least one of the coupling element and the

Serial No. 10/517,437

Amendment Dated: November 22, 2006

Reply to Office Action Mailed: August 23, 2006

Attorney Docket No. 095309.55678US

additional coupling elements as a function of at least one of the state of the energy store and a ranking of the relevant safety-relevant load, and

- iii) connect or disconnect the safety-relevant load.

Claim 17. (Previously Presented) The arrangement as claimed in Claim 16, wherein when the data processing unit determines that the state of the second energy store has fallen below a capacity limit or has failed, the safety-relevant load is connected to the first energy store via the coupling element.

Claim 18. (Previously Presented) The arrangement as claimed in claim 17, wherein when the data processing unit determines that a capacity limit of the first energy store has also been undershot, a respective additional coupling element for the safety related loads is controlled such that individual safety related loads are disconnected on the basis of their ranking.

Claims 19.-24. (Cancelled)